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MEMORANDUM

TO: Richard Haynes
Site Engineering Section
Division of Site Engineering and Screening
Bureau of Solid and Hazardous Waste Management

FROM: Angela Gorman AG
Superfund and Solid Waste Section
Division of Hydrogeology
Bureau of Solid and Hazardous Waste Management

Date: January 21, 1991

RE: Draft Remedial Investigation Report, dated December 1990
Medley Farm Site
SCD 980 558 147
Cherokee County

The referenced report has been reviewed from a hydrogeologic perspective as requested. However, due to time constraints, a detailed review was not feasible. As a result, the comments provided below are general in nature, and emphasis is placed on major concerns with the groundwater portions of the report. These concerns include limited groundwater analytical parameters, portrayal of only selected groundwater analytical results in tables and figures, and the need for additional monitoring wells to define the full extent of groundwater contamination.

1) Analysis for volatile organic compounds (VOCs) has been used as an indicator of contaminant extent in groundwater at the site. However, the use of this limited parameter list was based on analysis of only one round of samples from only four monitoring wells early in the remedial investigation. It appears that more comprehensive analyses should be conducted to adequately define the nature of groundwater contamination. Also, in several places the report states that VOC's are the only contaminants present in groundwater. These statements are misleading in that VOC's were the only parameters sampled for except in a few samples. These portions of the report should be reworded to clarify that, after the preliminary analysis, groundwater samples were only analyzed for VOC's.

2) The results of the Phase II investigation indicate a more extensive contaminant plume than that identified during Phase I. However, the full extent of contamination has not yet been delineated. It appears that additional monitoring wells are needed at further downgradient locations to define the extent of the contaminant plume.

3) Several monitoring wells (SW1, BW1, SW106, and BW4) were resampled during the Phase II investigation due to apparent inconsistencies in the analytical results. However, the possibility that the "inconsistencies" observed reflect real changes in contaminant concentrations since the Phase I analysis (1989) should not be ruled out. Also, it appears that analytical results from a complete round of samples analyzed with full CLP QA/QC should be considered more reliable than separate results from an incomplete round analyzed at a different laboratory on a quick turnaround basis. It appears that the initial Phase II results from SW1, BW1, SW106, and BW4 should not be considered unrepresentative without additional confirmatory analyses.

4) Table 5-7 should be revised to include all analytical results from Phases I and II. One of the purposes of this table appears to be to compare analytical results from different sampling locations over the remedial investigation period. However, only results of selected rounds of sampling are reported in the table, and the rounds reported are different for each monitoring well. Inclusion of all Phase I data in this table will clarify the reported inconsistencies between Phase I and Phase II results from BW1, SW1, and BW4. All Phase II results including those from SW1 and SW106 should also be added to this table.

5) There is concern that the analytical results shown in Figures 5.3, 6.2, 6.3, and 6.4 may present a misleading portrayal of the extent of groundwater contamination at the site because these figures combine results from two different sampling events. Selected analytical results from Phase II which indicated the presence of contaminants were disregarded in favor of results from a second analysis which did not indicate contamination. As discussed in comment 3, the initial Phase II results may be more representative of actual conditions at the site than the subsequent partial sampling round results which are used in the referenced figures. Additionally other Phase II results (from BW2 and BW105) which also appear inconsistent with previous analytical results (but indicate lower rather than higher contaminant concentrations) were not resampled, and the lower concentrations are portrayed in the referenced figures. A less misleading representation of the extent of contamination at the site may be achieved by depicting concentration ranges in these figures. However, regardless of the presentation format chosen, it appears that additional complete rounds of sampling are needed to resolve the analytical inconsistencies.

6) The analytical results and a discussion of the discrete interval sampling of SW105 should be included in the report.

cc: Tommy Hyde, Appalachia II